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ABSTRACT

The use of computer simulation to aid instruction in speech-communication will be investigated. A computer program called ARISTOTLE will be employed in the teaching of concepts of audience analysis to students enrolled in an advanced communication theory course. The program works as follows. The user first encodes a set of issues associated with a topic or which he desires to communicate. He then feeds his choice into the computer together with a request for the generation of a particular type of audience. The feedback he receives will enable him to construct a persuasive message. (CK)

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COMPUTER ASSISTED INSTRUCTION FOR

THE SPEECH-COMMUNICATION CLASSROOM

by Warren Benjamin

Introduction

There appears little doubt that technology can, and should, have a significant impact upon education. The maintaining of an awe inspiring success ratio which culminated in the placement of man on the moon reinforces the point that technology, represented by such things of computer simulation, can be of tremendous aid to the attainment of specific goals. In the face of such potential, educational institutions can ill afford to ignore that technology which can aid classroom instruction.

Purpose of the Project

The purpose of the intended research will be to investigate the use of computer simulation to aid instruction in Speech-Communication. Specifically, the project will involve the use of a computer program entitled ARISTOTLE in the teaching of concepts of audience analysis to students enrolled in Speech-Communication 155 (Advanced Communication Theory)..

Description of the Project

Program ARISTOTLE was developed at Michigan State University during the 1967/68 academic year. The development of this program was under the auspices of the Education Development Program and supported by funds from an All-University Research Grant. It contains a calling sequence and four subroutines for data processing and calculations. All instructions are written in the Control Data Corporation version of FORTRAN IV. The program is readily available for administration by the newly installed CDC 3300 computer system now operational at San Jose State College.

The program works in the following manner. The user first encodes a set of issues associated with a topic on which he desired to communicate. He then makes a choice as to which issues he would make reference to in a constructed message for the purpose of persuasion (attitude modification). The list of original issues and those selected by the user are inputted to the computer, together with a request for the generation of a particular type of audience. This audience is created by the computer via the use of a random number generator and in accord with empirically defined parameters for audience classification. Five types of audience are so defined: random, favorable, neutral, hostile and apathetic. For each audience member the computer assigns a measure of saliency and an attitude for each issue originally encoded by the user.

The user is then provided, by the computer, with an analysis of the created audience. This analysis includes a list of issues on which the user and the particular audience member disagree with respect to saliency. In addition, as part of the initial output, the user is provided with an attitude matrix for the audience based on all of the encoded message variables. All information is printed out as well as punched on cards in order to be available for additional analyses.

As a result of the initial output from the computer, the user can address himself to the actual phrasing of a reconstructed message. He can do this by examining the attitude matrix and then making some decisions, based upon predictions provided by contemporary communication theory,

with respect to the disposition that should be reflected by the reconstructed message in order to maximize audience adaptation. The user may at this point, decide to include or delete an issue based upon knowledge relating to the general saliency that the issue may have for a particular audience. He can then resubmit the adapted message to the computer which in turn will evaluate the adaptation and make an estimate as to how well it would be received by the created audience.

To aid the user in making his adaption, three subroutines are also available: MAXADAPT, REBUTE 1 and REBUTE 2. MAXADAPT will, at the user's option, examine the reconstructed message in light of both the perceived saliencies and attitudes of the generated audience and then allow the computer, in accord with empirically derived models of the communication process, to make a modification of the original message in order to maximize its appeal. REBUTE 1 will, at the option of the user, try to pinpoint special problems and questions that will remain in the mind of the individual audience member once the persuasive appeal is made. REBUTE 2 will, at the option of the user, sift through all the information known about the generated audience in order to center in on those issues on which the audience, as a whole, lacks sufficient information to allow the computer to make a prediction as to how the issues should be phased. These issues are listed together with advice from the computer as to the nature of the information needed before they can become a functional part of a persuasive appeal.

Recent modifications of the program also allow the processing of actual pre-tested audiences in a manner similar to that described above. A report on the use of ARISTOTLE for the analysis of actual audience will be made at the Western States Speech Association meeting to be held in San Diego in November of 1969.

The program will handle audiences of up to 300 members and messages containing up to 100 issues. In addition, the program can process 99 separate user requests with a given computer run. This feature, combined with standard techniques of batch processing, makes the use of ARISTOTLE by students temporally as well as economically, sound.

Significance of the Project

It is the intent of this research project to make ARISTOTLE a functional part of the instruction of Advanced Communication Theory. The objective is to allow the students to use communication theory as a bases for the construction of a persuasive message and then use computer simulation as a method for integrating theory with techniques of audience analysis. A second objective will be to allow the course instructor to simulate communication situations for the purpose of discussing how various communication models might operate in order to predict the results of persuasive appeals.

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